STATE OF MISSOURI
Bob Holden Governor Stephen M Mahfood Director
DEPARTMENT OF NATURAL RESOURCES
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December 27, 2002

Mr Bruce Morrison
U S Environmental Protection Agency
Region VII
901 N 5th St
Kansas City, Kansas 66101

Dear Mr Morrison

The Missouri Department of Natural Resources, Missouri Department of Conservation and U S Fish and Wildlife Service have reviewed the "Natural Resource Damage Assessment Plan, Slag Investigation, The Doe Run Company Lead Smelter, Herculanuem, Missouri " The Trustee representatives offer the following comments on this document

General Comments

The main concern with the Natural Resource Damage Assessment Plan (NRDAP) is the same as the other supporting documents for facility investigations (i e , Ecological Risk Assessment Plan, Sampling and Analysis Plan, Quality Assurance Project Plan) The scope of the NRDAP is too narrow focusing only on impacts from the slag pile The definition of the site contained in the Administrative Order on Consent (AOC) is much broader The AOC also indicates that since the investigation is ongoing, the boundaries of the site are subject to change and should include all areas where contamination is located Additional items to be considered in the NRDAP should include, but are not limited to, soil contamination by air-borne lead deposition, spills, old slag deposits located near the facility, runoff from haul routes, and flood events These changes should be reflected throughout the NRDAP, and the NRDAP should be redrafted for additional review and comment Given the limitations of the current NRDAP, the Trustees do not agree with or endorse this plan at this time

There should be a screening of injury to birds Birds will ingest organisms and plants, which may take up lead In addition, some birds may ingest slag as grit in order to aid in grinding food in the gizzard Finally, ALA-D inhibition is identified as an injury in 43 C F R 11 62 and should be measured on appropriate bird species

At several points through the document, it is stated that decisions will be made in the field, on as-needed basis, or in the case of the floristic survey methods, reviewed by Doe Run The AOC provides that the collection of sufficient data, samples and other information will be done in conjunction with the MDNR and U S Fish and Wildlife Service (USFWS), in their capacity as Natural Resource Trustees (collectively referred to as Trustees) to enable the completion of the injury determination and other appropriate natural resource damage assessment activities in accordance with 43 C F R Part 11 This requirement needs to be referenced through out the document

Specific Comments to Preliminary Draft

Page 1-3, Section 1 1 1 2 - The discussion of background for the slag pile should also include the Army Corps of Engineers determination that the area around the slag pile is a jurisdictional wetland and the subsequent letter from the department's Land Reclamation Program prohibiting expansion into the surrounding wetland

Figure 3, Page 1-6 – The Conceptual Site Model should include smelter emissions and Herculaneum street runoff as additional primary sources Pathways should be indicated for air to soil and surface water as well Also, potential exposure routes for surface water/sediment should include gill uptake, which would be consistent with inhalation for air releases

Page 2-1, Section 2 – A damage discovery not only includes the cost of restoration and interim loss, but also the cost of assessment This change should be reflected through out the document

Page 2-2, Figure 4 – Phase 2 should be expanded to include the public review requirement

Page 2-3, Section 2 3 1 – The complete definition of injury according to the Department of the Interior regulations is "a measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil or release of a hazardous substance, or exposure to a product of reactions resulting from the discharge of oil or release of a hazardous substance "

Page 2-4, Section 2 3 2 – Hazardous chemical should be changed to hazardous "substances" through out the document

Page 2-4, Section 2 3 2 - Language should be added stating that soil concentrations will be compared to plant, invertebrate, and any other direct exposure indices that may apply This would include measures of soil contamination at all sample sites that have biological measures For example, soil metal analyses should be conducted along each transect used

Herculaneum area Palustrine, Emergent, Palustrine, Forested, broad-leaved Deciduous, Palustrine, Scrub-Shrub, broad-leaved Deciduous, Palustrine, Unconsolidated Bottom, and Lower Perennial, Unconsolidated Bottom It is recommended that this information be reviewed

Page 3-3 to 3-7, Section 3 1 1 - While many of the metrics outlined are useful, direct measures of impact should also be conducted Storm water runoff from the slag pile should be characterized both chemically and toxicologically The toxicological assessment can be conducted using chronic effluent procedures for both *Ceriodaphnia dubia* and fathead minnows Additionally, appropriate sediment samples should be evaluated for toxicity with established procedures using the amphipod, *Hyalella azteca*

Page 3-4 Section 3 1 1 – The "MDC, 2001" reference is not listed in the literature citations The citation should fully document where this information was obtained from and cited in the literature citations

Page 3-4 Section 3 1 1 – The document states that " the condition of the fishery is the most meaningful index of water quality to the public " What is the basis of this statement? An injury to surface water is defined in 43 C F R Section 11 62

Page 3-3, Section 3 1 - The Joachim Creek assessment area should include stream areas above the low-water dam since sources of metals include those areas upstream of the slag pile but associated with the overall site

Page 3-9, Section 3 1 2 1 - The scrub-shrub wetland (willow stand) qualitative assessment is of limited value unless an appropriate reference willow stand can be identified Additionally, the area located across Joachim Creek may not be an appropriate reference site since the area is subject to seasonal flooding and the reference area could be contaminated Until the site is fully characterized, it is difficult to say with any certainty what is an appropriate reference site

Page 3-11, Section 3 1 2 2 – The NRDAP states that information obtained from the Missouri Department of Conservation indicates that there are no federally listed or state listed threatened or endangered plant species with regard to the lower Joachim Creek area As commented on the Sampling Analysis Plan, it should be clarified that this is not a definitive statement as to the presence or absence of species of conservation in this area

The acronym for the Missouri Department of Conservation should be MDC It is inconsistent in the document

Page 4-1, Section 4 – The section on the Habitat Equivalency Analysis (HEA) assumes that recovery will result in a return to baseline of 100% of the relative productivity It is very rare instances where injured natural resources are returned to 100% of their relative

This would include measures of soil contamination at all sample sites that have biological measures For example, soil metal analyses should be conducted along each transect used for the quantitative floristic survey Also, the last sentence of the second paragraph should be edited to state "These general measures of resource quality include, *but are not limited to* "

Page 2-5, Section 2 3 4 – The Trustees have a responsibility to ensure that the costs for performing a damage assessment are "reasonable" According to 43 C F R 11 14, *reasonable cost* means the amount that may be recovered for the cost of performing a damage assessment Costs are reasonable when the Injury Determination, Quantification, and Damage Determination phases have a well-defined relationship to one another and are coordinated, the anticipated increment of extra benefits in terms of the precision or accuracy of estimates obtained by using a more costly injury, quantification, or damage determination methodology are greater than the anticipated increment of extra costs of that methodology, and the anticipated cost of the assessment is expected to be less than the anticipated damage amount determined in the Injury, Quantification, and Damage Determination phases The "grossly disproportionate" language needs to be removed from this document

Page 2-6, Section 2 3 5 – The reference to 15 C F R Part 990 22 is inappropriate for this site These regulations relate to the discharge of oil not the release of hazardous substances The appropriate reference would be 43 C F R Part 11 All references to 15 C F R or Oil Pollution Act of 1990 should be removed, and if appropriate, replaced with 43 C F R or the Comprehensive Environmental Response, Compensation and Liability Act

Page 3-1, Section 3 – The document discusses using a field program with ecological metrics to estimate the baseline condition What is the meaning of this sentence? The regulations provide that where existing data are unavailable or insufficient to confirm exposure, one or more of the analytical methodologies provided in the Injury Determination phase may be used The collection and analysis of new data shall be limited to that necessary to confirm exposure and shall not include testing for baseline levels or for injury, as those phrases are used in this part A determination of baseline will be made in conjunction with the Trustees

Figure 5 - The floristic surveys should also assess upland impacts from smelter emissions

Page 3-1, Section 3 1 – This document identifies three habitat types while the Sampling Analysis Plan identifies four habitat types Which is the correct number of habitat types? Both documents include two types of wetlands According to the National Wetlands Inventory there are five different types of wetlands in the

productivity, especially with injured wetlands It is conceivable that a percentage of the relative productivity could be lost in perpetuity

We appreciate the opportunity to comment on this document and we would appreciate a copy of any official response you receive to these comments If you have questions or need additional information, please contact Mr Jim Dwyer at (573) 876-1911 ext 108, Ms Karen Bataille at (573) 882-9880 ext 3215, or me at (573) 522-1347 or P O Box 176, Jefferson City, MO 65101

Sincerely,

HAZARDOUS WASTE PROGRAM

Frances Klahr

Frances Klahr
NRDAR Coordinator

FK ta

c Karen Bataille, Missouri Department of Conservation
Mike Coffey/Kevin de la Bruere, U S Fish & Wildlife Service
Jim Dwyer, U S Fish & Wildlife Service
Gary King, IL Environmental Protection Agency
James M Lanzafame, The Doe Run Company
Beth Whetsell, IL Department of Natural Resources
Todd Williams, ELM Consulting, L L C